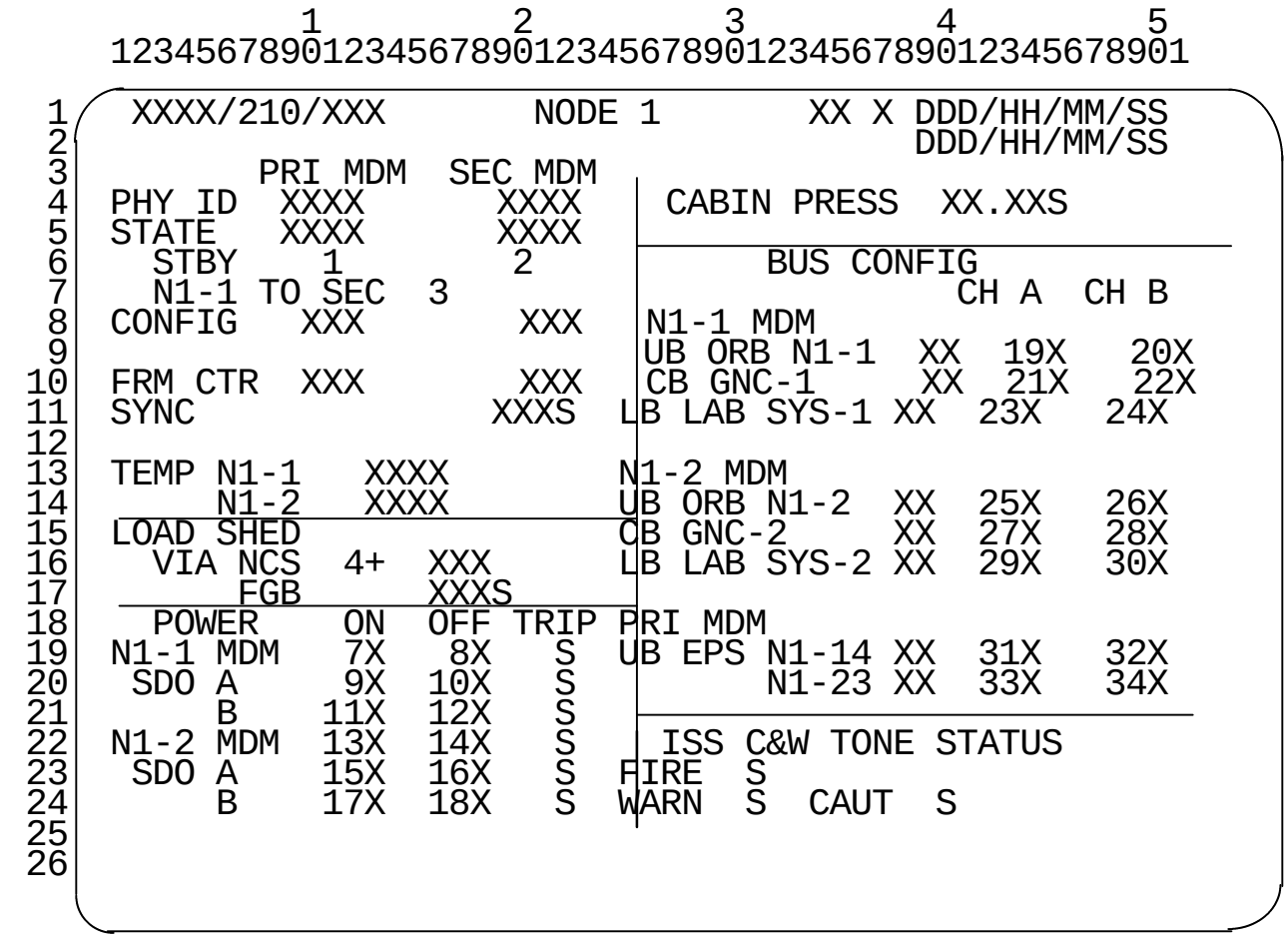
SPEC 210 NODE 1 DISPLAY



PARAMETER CHARACTERISTICS: SM 210 NODE 1 DISPLAY

CRT NAME	MSID	UNITS	DISPLAY RANGE	STATUS INDICATORS					FDA (Limits)	
				H	L	M	↑	↓	HI	LO
PHY ID PRI MDM [1]	P79X0484E	----------	1 = N1-2, 0 = N1-1						----------	---------
PHY ID SEC MDM [1]	P79X0486E	----------	1 = N1-2, 0 = N1-1						----------	---------
STATE PRI MDM BIT 5/6/7 [2]	P79X0120E/ P79X0487E/ P79X0488E	----------	STBY = 001 PRI = 010 SEC = 011 DIA = 111						----------	---------
STATE SEC MDM BIT 5/6/7 [2]	P79X0111E/ P79X0489E/ P79X0490E	----------	STBY = 001 PRI = 010 SEC = 011 DIA = 111						----------	---------
LOAD SHED VIA FGB [6]	P79X0058E, P79X0068E, P79X0072E	----------	NO = 0, YES = 1					↓	N/A	1
CONFIG PRI MDM BIT 3-6 [3]	P79X0118E, P79X0500E → P79X0502E	----------	C01 --- C16						----------	---------
CONFIG SEC MDM BIT 3-6 [3]	P79X0109E, P79X0503E → P79X0505E	----------	C01 --- C16						----------	---------
FRM CTR PRI MDM [4]	P79U0509D	----------	INCREMENT						----------	---------
FRM CTR SEC MDM [4]	P79U0114D	----------	INCREMENT						----------	---------
SYNC - SEC MDM [5]	P79X0112E	----------	1 = NO, 0 = YES					↓	N/A	1
TEMP N1-1	P79T0107D	°F	TBD						TBD	TBD
TEMP N1-2	P79T0106D	°F	TBD						TBD	TBD
N1-1 MDM POWER TRIP	P79X0453E	----------	----------					↓	N/A	1
N1-1 SDO A POWER TRIP	P79X0450E	----------	----------					↓	N/A	1
N1-1 SDO B POWER TRIP	P79X0451E	----------	----------					↓	N/A	1
N1-2 MDM POWER TRIP	P79X0300E	----------	----------					↓	N/A	1

PARAMETER CHARACTERISTICS: SM 210 NODE 1 DISPLAY (Cont)

CRT NAME	MSID	UNITS	DISPLAY RANGE	STATUS INDICATORS					FDA (Limits)	
				H	L	M	↑	↓	HI	LO
N1-2 SDO A POWER TRIP	P79X0298E	----------	----------					↓	N/A	1
N1-2 SDO B POWER TRIP	P79X0299E	----------	----------					↓	N/A	1
CABIN PRESS [7]	P79P0493A	PSIA	TBD				↑	↓	15	13.9
UB ORB N1-1 BUS CONFIG [8]	P79X0128E/ P79X0491E	----------	NA = 00 RT = 01 BC = 10						----------	---------
CB GNC-1 BUS CONFIG BIT 6/7 [8]	P79X0126E/ P79X0492E	----------	NA = 00 RT = 01 BC = 10						----------	---------
LB LAB SYS-1 BUS CONFIG BIT 6/7 [8]	P79X0124E/ P79X0494E	----------	NA = 00 RT = 01 BC = 10						----------	---------
UB ORB N1-2 BUS CONFIG BIT 6/7 [8]	P79X0134E/ P79X0495E	----------	NA = 00 RT = 01 BC = 10						----------	---------
CB GNC-2 BUS CONFIG BIT 6/7 [8]	P79X0132E/ P79X0496E	----------	NA = 00 RT = 01 BC = 10						----------	---------
LB LAB SYS-2 BUS CONFIG BIT 6/7 [8]	P79X0130E/ P79X0497E	----------	NA = 00 RT = 01 BC = 10						----------	---------
UB EPS N1-14 BUS CONFIG BIT 6/7 [8]	P79X0140E/ P79X0498E	----------	NA = 00 RT = 01 BC = 10						----------	---------
UB EPS N1-23 BUS CONFIG BIT 6/7 [8]	P79X0122E/ P79X0499E	----------	NA = 00 RT = 01 BC = 10						----------	---------
FIRE [9]	P79X0161E	----------	----------					↓	N/A	1
WARN [9]	P79X0158E	----------	----------					↓	N/A	1
CAUT [9]	P79X0157E	----------	----------					↓	N/A	1

REMARKS

[1] The PHY ID field will display ‘N1-1’ or ‘N1-2’ to indicate which ISS Node 1 Multiplexer/ Demultiplexer (MDM) is the primary (PRI) and secondary (SEC) Node Control Software (NCS) MDM. For nominal operations, N1-2 will be the PRI MDM and N1-1 will be the SEC MDM.

[2] The STATE field indicates the operational state of the primary and secondary MDMs. This field will read ‘PRI’ for primary, ‘SEC’ for secondary, ‘STBY’ for standby and ‘DIA’ for diagnostics.

[3] The CONFIG field indicates the configuration number (C01 - C16) of the NCS running in the primary and secondary MDMs.

[4] By checking to see if the frame counters (FRM CTR) for the PRI and SEC MDMs are incrementing, the crew can determine whether data is being received from the MDMs.

[5] The SYNC field will display either ‘YES’ or ‘NO’ to indicate whether or not the SEC MDM is communicating with the PRI MDM. This field applies to the secondary MDM only. When the SEC MDM has lost sync with the PRI MDM, ‘NO’ will be displayed in the SYNC field and the crew will receive an alert light, tone, and fault message.

[6] If any three or more FGB batteries read 25 volts or less, the FGB will send a C&W to the Node 1 MDMs, which will activate the load shed table. If this occurs, the LOAD SHED VIA FGB field will display ‘YES’ and a down-arrow will be displayed in the status field. The crew will also receive an alert light, tone, and fault message. Otherwise, the field will display ‘NO’.

[7] The CABIN PRESS field displays the Node 1 cabin pressure. When this parameter exceeds its lower/upper FDA limits, a down or an up arrow will be displayed in the status field. The crew will also receive a master alarm light and tone, a B/U C/W light on panel F7, and a fault message.

[8] BUS CONFIG displays information on the ISS 1553B buses. The field to the right of the bus name displays the configuration of the buses connected to the specified MDM. This field will read either ‘BC’ for bus controller, ‘RT’ for remote terminal, or ‘NA’ for not available.

[9] ISS C&W TONE STATUS: Since the Early Portable Computer System (PCS) doesn’t have the capability to annunciate alarm tones, the tone status flag from the NCS will be used to trigger the Orbiter C&W system. When the tone status flag is set for any FIRE, WARNING, or CAUTION event, a down-arrow will be displayed in the appropriate status field. For a ‘FIRE’ event, the crew will receive a master alarm light and tone, a B/U C/W light on panel F7, and a fault message. For ‘WARN’ and ‘CAUT’ events, the crew will receive an alert light, tone, and fault message. The crew will then have to refer to the PCS for details on the fault condition.

ITEM ENTRY CHARACTERISTICS: SM 210 NODE 1 DISPLAY

Items 1 and 2: STBY - allows the crew to command either the primary or secondary MDM to the Standby state.

Item 3: N1-1 TO SEC - commands N1-1 to the secondary state.

Item 4: LOAD SHED VIA NCS - activates the Node 1 Load Shed Table, which will power off everything in the Node 1, except the MDMs. This command will be used by the crew in response to a fire in the Node. This command is protected to prevent inadvertent execution; therefore, an ITEM 4 + 99 entry is required. Currently, there is no telemetry from the NCS to indicate the status of the load shed. The load shed table can also be activated without crew or ground intervention.

Items 7 --- 12: N1-1 POWER ON/OFF - allows the crew to close (Power On) and open (Power Off) the RPCs associated with the MDM power supplies and Solenoid Driver Output (SDO) A and B cards. An asterisk will be displayed next to the appropriate item number to indicate the power status. A down-arrow will be displayed in the Trip Status field when an RPC has tripped. The crew will also receive an alert light, tone, and fault message.

Items 13 --- 18: N1-2 POWER ON/OFF - allows the crew to close (Power On) and open (Power Off) the RPCs associated with the MDM power supplies SDO A and B cards. An asterisk will be displayed next to the appropriate item number to indicate the power status. A down-arrow will be displayed in the Trip Status field when an RPC has tripped. The crew will also receive an alert light, tone, and fault message.

Items 19 --- 34: BUS CONFIG CH A/CH B - allows the crew to select either Channel A or B on each of the buses. An asterisk will be displayed next to the appropriate item number to indicate the selected channel.

Items 19 and 20: UB ORB N1-1 CH A/CH B - allows the crew to select which channel (A, B) the N1-1 MDM will communicate on the UB ORB N1-1 bus.

Item 21 and 22: CB GNC-1 CH A/CH B - allows the crew to select which channel (A, B) the N1-1 MDM will communicate on the CB GNC-1 bus.

Items 23 and 24: LB LAB SYS-1 CH A/CH B - allows the crew to select which channel (A, B) the N1-1 MDM will communicate on the LB LAB SYS-1 bus.

Items 25 and 26: UB ORB N1-2 CH A/CH B - allows the crew to select which channel (A, B) the N1-2 MDM will communicate on the UB ORB N1-2 bus.

Items 27 and 28: CB GNC-2 CH A/CH B - allows the crew to select which channel (A, B) the N1-2 MDM will communicate on the CB GNC-2 bus.

Items 29 and 30: LB LAB SYS-2 CH A/CH B - allows the crew to select which channel (A, B) the N1-2 MDM will communicate on the LB LAB SYS-2 bus.

Items 31 and 32: UB EPS N1-14 CH A/CH B - allows the crew to select which channel (A, B) the PRI MDM will communicate on the UB EPS N1-14 bus.

Items 33 and 34: UB EPS N1-23 CH A/CH B - allows the crew to select which channel (A, B) the PRI MDM will communicate on the UB EPS N1-23 bus.